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ABSTRACT

Twenty-seven blind college students were interviewed on notetaking and studying techniques and were asked to participate in a study of voice indexing, which facilitates access to segments of audio tape. A programed text in recorded form on voice indexing was then pretested by 12 blind participants and revised, based upon findings. The text presents introductory material on uses of voice indexes, mechanics of tape handling, and the intellectual task of selecting tape segments and indexing terms. The programed text was then sent, in printed and recorded form, to approximately 400 offices of disabled student services at U.S. community colleges, colleges and universities and to state agencies serving the disabled. (CL)

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VOICE INDEXING: A PROGRAMMED TEXT IN RECORDED FORM

Patricia A. Jahoda and Nancy C. McKee

Access to a segment of text recorded on audio tapes is difficult unless the tape is listened to from end-to-end. Blind students who rely on audio tapes to review parts of lectures or to look up specific facts use valuable time to get to the needed segment of text. A recent development, called voice indexing, facilitates access to segments of audio tape. This is a report of a voice indexing project, sponsored by the Exxon Education Foundation. The report summarizes the development of a programmed text on voice indexing and describes the product that resulted from the Project.

Voice indexing, developed by James G. Chandler[1], makes use of the typically unused half track on a tape by recording spoken index terms at high speed (fast forward) and parallel to the track on which the text is recorded at normal speed. When using a voice indexed cassette, the track with the recorded index terms is played at fast forward until the wanted index term is heard. Then the recorder is stopped, switched to the parallel track and listened to at regular speed. The listener will then be at the indexed portion of the recorded text.

Examples of applications of voice indexing either by or for blind students are given in TABLE 1.

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[1] James G. Chandler, "Voice Indexing of Tape Recordings," Journal of Visual Impairment and Blindness 73(May 1979): 191-192.

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TABLE 1

1. Prepared for blind persons
   a. Dictionaires, directories, almanacs, and other reference tools
   b. Constitution and bylaws of organizations
   c. Schedule of sports or other events
   d. Musical recordings
   e. Recipes
   f. Appliance maintenance and repair instructions
   g. Hours of broadcast of shortwave radio stations
   h. Robert's Rules of Order
   i. Rules of games, e.g. chess, bridge
2. Prepared by blind persons
   a. Personal notes, reports
   b. Minutes of meetings
   c. Books, journal articles
   d. Calendar of events, e.g. meetings, birthdays
   e. Addresses and phone numbers
   f. Shopping lists

The Development, Testing, Revision, and Distribution of the Programmed Text

Twenty-seven blind students enrolled at The Florida State University in the fall of 1981 were interviewed to learn about their notetaking and studying techniques and demographic characteristics. The interviews were also used to acquaint the students with voice indexing and to determine their potential interest in participating in the Project.

The programmed text in recorded form on voice indexing, the product of the Project, was pretested by the 12 blind students and then revised as a result of the pretest.

The instructional material falls into three components which are also the sections of the text. The first component is introductory in nature. It attempts to answer the following questions: What is an index? What is a voice index? What are some of the uses of voice indexes? The second component deals with the mechanics of tape handling for voice indexing, including how it is done, what may go wrong, and how to avoid or correct problems that may occur. The third component deals with the intellectual task of selecting segments of text to index and assigning index terms to selected segments of text.

The third section was the most difficult to prepare for two reasons. Little, if any, knowledge about indexes or indexing could be assumed on the part of blind students in view of their limited exposure to this concept. Also, indexing for any given collection of recorded material is highly subjective in nature, being dependent on the individual indexer's perceived anticipated needs for the material to be indexed, as well as his memory and cognitive style.

Instructions in voice indexing should consist of explanation and discussion of concepts and skills to be learned, exercises and feedback after the completion of the exercises. This suggests the use of programmed instruction. While programmed instruction has been used extensively in printed form as programmed text and in machineable form as computer-based instruction, it was not as yet available in tape recorded form.

A programmed text is not read from end-to-end, as is an audio tape. Instead, the user is directed to different segments of the text depending on the learner's performance with the exercises. The recorded text was made into a recorded programmed text by directing the learner to different segments of the tape via voice indexed terms. An example of the use of voice indexing will illustrate this. After the student has completed his first exercise, the recording of a voice indexed term on a specified segment of tape, he is asked to check his work. If he has done the exercise adequately as defined, he is then told to locate the next exercise via the voice index term "Exercise 2." If the exercise was not done correctly, the student is asked to listen to the diagnostics which follow, or to review the step-by-step directions which precede the exercise. The step-by-step directions are also located with the aid of a voice index term. This is an example of branching accomplished with the aid of voice index terms used in the programmed text in recorded form.

Distribution of Programmed Text

The programmed text is recorded on one 60 minute tape. Copies of the programmed text in both printed and recorded form were sent to about 400 offices of disabled student services at U.S. community colleges, colleges, and universities and state agencies serving the disabled. Since The Florida State University is not in a position to make available single copies of the programmed text in recorded form, arrangements were made with EL PRO [Attn: Mr. Bob Zugby, P.O. Box 3634, Langley Park, MD 20787] to sell the tapes for $6.00.